

COUNSELLING, KNOWLEDGE AND ATTITUDES TOWARDS COMBINED ORAL CONTRACEPTIVES: A CROSS-SECTIONAL SURVEY AMONG ROMANIAN WOMEN

ANDREEA FARCAȘ^{1*}, ANDREEA DIANA POPA¹, SÂNZIANA MARDALE¹, CAMELIA BUCȘA¹, DANIEL-CORNELIU LEUCUȚA², CRISTINA MOGOȘAN¹

¹*Drug Information Research Centre, "Iuliu Hațieganu" University of Medicine and Pharmacy, 6 Pasteur Street, 400349, Cluj-Napoca, Romania*

²*Medical Informatics and Biostatistics Department, "Iuliu Hațieganu" University of Medicine and Pharmacy, 6 Pasteur Street, 400349, Cluj-Napoca, Romania*

*corresponding author: afarcas@umfcluj.ro

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Abstract

The daily combined oral contraceptive (COC) pill has been the contraceptive method of choice available to women worldwide for the last 50 years. This study was a cross-sectional survey designed to evaluate Romanian women's knowledge, attitudes and counselling regarding COCs use. The majority of women considered COCs a safe, efficient and easy to use method to avoid pregnancy. While most of them used COCs at the gynaecologist's prescription accompanied recommendation, a large percentage bought COCs without prescription from pharmacies. Despite the fact that the majority of women were counselled mainly by gynaecologists regarding the utilization, efficacy and adverse drug reactions (ADRs), their main concern and the reason of nonadherence to COCs therapy were the possible ADRs. The findings indicate that counselling supports an informed and rational use of COCs. Healthcare professionals should be aware that Romanian women's perception on COCs ADRs is more important than their perceived efficacy. Thus effective education on COCs utilization should improve compliance.

Rezumat

Contraceptivele orale combinate (COC) constituie una dintre principalele metode de contracepție disponibile pentru femeile din întreaga lume în ultimii 50 de ani. Studiul realizat a evaluat consilierea, cunoștințele și atitudinea femeilor din România asupra utilizării COC. Majoritatea femeilor consideră COC o metodă sigură, eficientă și ușor de utilizat pentru a evita sarcina. Deși cele mai multe dintre femei utilizau COC la recomandarea medicului ginecolog, o mare parte dintre acestea au achiziționat COC fără prescripție medicală, din farmacii. În ciuda faptului că femeile au fost consiliate, în principal de ginecologi, privind utilizarea, eficacitatea și reacțiile adverse (RA) ale terapiei, principala cauză de îngrijorare și non-aderență a fost reprezentată de posibilele RA. Rezultatele indică faptul că utilizarea rațională și informată a COC este susținută de o consiliere adecvată. Profesioniștii din domeniul sănătății ar trebui să fie conștienți de faptul că percepția femeilor asupra reacțiilor adverse ale COC este mai importantă pentru aderența la terapie decât percepția asupra eficacității.

Keywords: counselling, education, perception, combined oral contraceptives

Introduction

Combined oral contraceptives (COCs) have been widely used by women all over the world since their introduction on the market in the 1960s [9].

Although nowadays women have access to a wide range of contraceptive methods (condom, skin patch, diaphragm, vaginal ring, intrauterine contraceptive device, implant, injection, spermicidal substance), COCs remain the most popular form of reversible contraception in Europe and the United States [6].

Women's preference on using COCs as a birth control method and as well for their non-contraceptive benefits is based on their well-proven efficacy for the past 60 years. Apart from preventing unintended pregnancies in women at reproductive age, COCs reduce symptoms

of endometriosis and polycystic ovary syndrome [16], reduce the risk of ovarian and endometrial cancer, improve acne, decrease dysmenorrhea, decrease premenstrual symptoms and have a positive effect on the cycle control [11]. Besides these benefits, COCs may cause several side-effects, including deep venous thrombosis, mood swings, and can also increase the risk of breast cancer and cervical cancer [15, 18]. The World Health Organization (WHO) Medical Eligibility Criteria (MEC) for Contraceptive Use cites hypertension and other cardiovascular conditions, smoking at age 35 and over and breast cancer, among others, as contraindications of COCs use [7].

Women's concerns regarding these negative side-effects and health risks are the most important factors for rejection and discontinuation of contraceptive

use [17]. In an attempt to reinforce the importance of providing clear and up-to-date information to women about COCs by healthcare professionals, in 2013 the European Medicines Agency (EMA) completed a review of certain COCs authorized in the European Union (EU) regarding the well-known risk of venous thromboembolism (VTE). Both committees involved in this procedure, the Pharmacovigilance Risk Assessment Committee (PRAC) and the Agency's Committee for Medicinal Products for Human Use (CHMP), concluded that the benefits of combined hormonal contraceptives in preventing unwanted pregnancies continue to outweigh their risks, and that the risk of VTE with all COC is small, advising women to continue the usage of COCs, but to be aware of the risk of thrombosis associated with these medicines [1].

Even though the risk of VTE with COC is small, women tend to have a negative perception about hormonal contraceptives. Besides VTE, other side effects influencing women's negative perceptions of COCs include hirsutism, interference with fertility, and that COCs are unnatural, dangerous for health and may cause cancer [2]. The overall negative perceptions of COCs are influenced by affective, cognitive and behavioural components of attitudes like satisfaction, safety, fear/anxiety and inconvenience. Therefore, effective counselling and education are needed in order to create a realistic perception and a proper use of COCs among women of reproductive age [8].

The aim of this study was to evaluate the utilization and perception on COCs among women at reproductive age in Romania.

Materials and Methods

A cross-sectional survey on COCs use was conducted on women of all ages that were reached by an educational campaign organized in 30 community pharmacies in Cluj-Napoca, Romania, between June and August 2014. The campaign was organized by the Drug Information Research Centre within the University of Medicine and Pharmacy in Cluj-Napoca, Romania, with the scope of counselling on rational use of COCs. An information leaflet and posters were available in all the selected pharmacies that referred women to an online questionnaire and an online specially designed counselling material on the rational use and on the risks of COCs, especially if inappropriately used. The campaign was also active on social media.

The self-administered questionnaire contained 36 closed and open questions. Multiple choice questions had predefined answers on demographic characteristics; information on patients' potential risk factors for

COCs use; prescription and counselling on COCs use; attitudes and perceptions on COCs and experienced adverse drug reactions on therapy. The knowledge on COCs use and the level of understanding of the information in the Patient Information Leaflet was also assessed. The questionnaire was designed to take approximately 15 to 20 minutes to complete.

Participation to the study was voluntarily and the questionnaires were completed anonymously.

Categorical data was presented as counts and percentages. The differences between groups of categorical data were assessed with Chi square test or the Fisher exact test. Odds ratios along with 95% confidence intervals were computed to assess the magnitude of difference between groups. For all statistical tests used, the significance level alpha was 0.05, and the two tailed p value was computed. The data was analysed using R environment for statistical computing and graphics, version 3.2.0 [5].

Results and Discussion

In total, 316 women responded the survey. Women's age ranged from 10 to 50 years, the majority (86%) of them having between 21 and 30 years. The majority (94.9%) of the respondents lived in the urban area and had higher education (90.1%). More than half of respondents (71.8%) were non-smokers and 38.9% used COCs therapy for more than 2 years. The contraceptive method most used in the past, reported by the majority of women (90.5%), was the male condom. The study population characteristics are presented in Table I.

Regarding the women's knowledge on COCs, 9.8% believed that the pill can be administrated during breastfeeding, and 7.6% of the responders did not know if they should continue with the pill if pregnant. Most respondents (76.3%) replied that they have missed at least one pill during the COCs therapy, and 27.53% reported taking the missed pill immediately after they remembered, but not more than 24 hours later than the hour they should have taken it. 24% of the respondents took the missed pill as soon as they remembered, even if more than 24 hours had passed after the hour they should have taken the pill and, in addition, they used a secondary contraceptive method, such as the male condom. These results should be seen in the light of the fact that 95.3% of the respondents declared that they read the patient information leaflet (PIL), but almost a third of them (28.2%) found the medical terminology in the PIL difficult to understand. Information on drug interactions, adverse reactions and contraindications was also difficult to understand for 19%, 10.1% and 8.9% of the respondents.

Table I
Study population characteristics

Characteristic	Overall (316) (no, %)	Current COC users (181) (no, %)	Current COC non-users (135) (no, %)	p, OR (95% CI)
Age				0.763
10 - 20	31 (9.8)	15 (8.3)	16 (11.8)	
21 - 30	272 (86)	158 (87.4)	114 (84.5)	
31 - 40	11 (3.6)	6 (3.3)	5 (3.7)	
41 - 50	1 (0.3)	1 (0.5)	0 (0)	
51 - 60	1 (0.3)	1 (0.5)	0 (0)	
Residence				0.101, 2.33 (95% CI 0.74 - 8.00)
Urban area	300 (94.9)	175 (96.7)	125 (92.6)	
Rural area	16 (5.1)	6 (3.3)	10 (7.4)	
Education				0.412
Primary	2 (0.7)	2 (1.1)	0 (0)	
Middle	1 (0.3)	0 (0)	1 (0.8)	
High school	28 (8.9)	18 (9.9)	10 (7.4)	
Upper	285 (90.1)	161 (89)	124 (91.8)	
Currently working				0.805, 1.06 (95% CI 0.66 - 1.70)
Yes	158 (50)	91 (50.3)	67 (49.6)	
No	153 (48.4)	86 (47.5)	67 (49.6)	
Current smoker				0.204, 1.38 (95% CI 0.81 - 2.37)
Yes	89 (28.2)	56 (30.9)	33 (24.4)	
No	227 (71.8)	125 (69.1)	102 (75.6)	
Time on COC therapy				< 0.001
Less than 1 month	50 (15.8)	12 (6.6)	38 (28.1)	
1-6 months	67 (21.2)	36 (19.9)	31 (23)	
6-12 months	36 (11.4)	26 (14.3)	10 (7.4)	
1-2 years	40 (12.7)	22 (12.2)	18 (13.4)	
More than 2 years	123 (38.9)	85 (47)	38 (28.1)	
Other contraceptive methods used				0.437
Condom	286 (90.5)	164 (90.6)	122 (90.4)	
Traditional methods	26 (8.2)	16 (8.8)	10 (7.4)	
Others	4 (1.3)	1 (0.6)	3 (2.2)	
Other medication used concomitantly with COC				< 0.001, 2.82 (95% CI 1.65 - 4.93)
Yes	102 (32.3)	75 (41.5)	27 (20)	
No	214 (67.7)	106 (58.5)	108 (80)	
Ever read the PIL for the COC				0.064, 2.81 (95% CI 0.85 - 10.73)
Yes	301 (95.3)	176 (97.2)	125 (92.6)	
No	15 (4.7)	5 (2.8)	10 (7.4)	
Family medical history				0.506, 0.86 (95% CI 0.54 - 1.38)
Cardiovascular disease	143 (45.3)	79 (43.6)	64 (47.4)	
Venous disease, including VTE	35 (11)	18 (9.9)	17 (12.6)	0.458, 0.77 (95% CI 0.36 - 1.66)
Cervical cancer	26 (8.2)	12 (6.7)	14 (10.4)	0.61 (95% CI 0.25 - 1.49)
Breast cancer	24 (7.6)	13 (7.2)	11 (8.1)	0.749, 0.87 (95% CI 0.35 - 2.23)

Most women used COCs at the gynaecologist's recommendation (70.6%). Whereas the majority of respondents (83.9%) got a prescription for COCs before the first utilization, more than half of them (67.7%) bought the pills without prescription from pharmacy at least once, suggesting that there was no renewal of the prescription. Three quarters of women (77.5%) were counselled on COCs use, more than half (66.7%) of the total respondents being counselled by a gynaecologist. However, significantly more women that gave up using COCs declared that got

their information from the internet, compared to the current COCs users. Also a notable difference between current COCs users and current COCs non-users (past users) was in the subject women were counselled on. Significantly less current COCs non-users were counselled on the efficacy and more of them were counselled on alternative methods for contraception, compared to current COCs users ($p = 0.039$, and $p < 0.001$). More results on prescription and counselling are presented in Table II.

Table II
Prescription and counselling on COCs

	Overall (316) (no, %)	Current COC users (181) (no, %)	Current COC non-users (135) (no, %)	p, OR (95% CI)
Who recommended the COC use?				
Gynecologist	223 (70.6)	127 (70.2)	96 (71.1)	0.855, 0.96 (95% CI 0.57 - 1.60)
Family planning center	27 (8.5)	20 (11)	7 (5.2)	0.065, 2.27 (95% CI 0.89 - 6.55)
Friend	20 (6.3)	12 (6.6)	8 (5.9)	0.799, 1.13 (95% CI 0.41 - 3.28)
GP	12 (3.8)	6 (3.3)	6 (4.4)	0.603, 0.74 (95% CI 0.19 - 2.83)
Pharmacist	8 (2.5)	4 (2.2)	2 (1.5)	1, 1.5 (95% CI 0.21 - 16.82)
Did you get a prescription?				
Yes	265 (83.9)	157 (86.7)	108 (80)	0.107, 1.63 (95% CI 0.86 - 3.13)
No	51 (16.1)	24 (13.3)	27 (20)	
Have you ever bought the COC from pharmacy without a prescription?				
Yes	214 (67.7)	128 (70.7)	86 (63.7)	0.187, 1.37 (95% CI 0.83 - 2.27)
No	102 (32.3)	53 (29.3)	49 (36.3)	
Did you get counseling on COC use?				
Yes	245 (77.5)	146 (80.7)	99 (73.3)	0.123, 1.51 (95% CI 0.86 - 2.67)
No	71 (22.5)	35 (19.3)	36 (26.7)	
Where from did you get counseling on COC use?				
Gynecologist	211 (66.7)	128 (70.7)	83 (61.5)	0.085, 1.51 (95% CI 0.92 - 2.49)
Family planning center	54 (17.1)	34 (18.8)	20 (14.8)	0.354, 1.33 (95% CI 0.7 - 2.57)
Internet	48 (15.2)	21 (11.6)	27 (20)	0.040, 0.53 (95% CI 0.27 - 1.02)
Pharmacist	43 (13.6)	26 (14.4)	17 (12.6)	0.650, 1.16 (95% CI 0.58 - 2.4)
Friend	26 (8.2)	13 (7.2)	13 (9.6)	0.434, 0.73 (95% CI 0.30 - 1.77)
GP	17 (5.4)	8 (4.4)	9 (6.6)	0.381, 0.65 (95% CI 0.21 - 1.95)
On what were you counseled?				
Utilization	259 (82)	153 (84.5)	106 (78.5)	0.169, 1.49 (95% CI 0.81 - 2.77)
Efficacy	157 (49.7)	99 (54.7)	58 (42.9)	0.039, 1.6 (95% CI 1.00 - 2.58)
Adverse reactions	153 (48.3)	92 (50.8)	61 (45.2)	0.321, 1.25 (95% CI 0.78 - 2.01)
Drug interactions	81 (25.6)	51 (28.1)	30 (22.2)	0.230, 1.37 (95% CI 0.79 - 2.40)
Alternative methods for contraception	56 (17.7)	18 (9.9)	38 (28.1)	< 0.001, 0.28 (95% CI 0.14 - 0.54)
Where do you prefer to look for information on COC?				
Gynecologist	191 (60.4)	108 (59.6)	83 (61.5)	0.744, 0.93 (95% CI 0.57 - 1.50)
Internet	134 (42.4)	79 (43.6)	55 (40.7)	0.605, 1.13 (95% CI 0.70 - 1.82)
Pharmacist	59 (18.7)	29 (16)	30 (22.2)	0.162, 0.67 (95% CI 0.36 - 1.23)
Family planning center	23 (7.3)	15 (8.3)	8 (5.9)	0.424, 1.43 (95% CI 0.55 - 4.03)
Friend	20 (6.3)	13 (7.2)	7 (5.2)	0.471, 1.41 (95% CI 0.51 - 4.31)
GP	14 (4.4)	9 (5)	5 (3.7)	0.588, 1.36 (95% CI 0.40 - 5.29)
Family	13 (4.1)	8 (4.4)	5 (3.7)	0.702, 1.25 (95% CI 0.35 - 4.96)

Even if almost half of the overall women believed COCs are a safe (41.7%) and efficient (41.4%) contraceptive methods, and a more advantageous one than the male condom (44.9%), only 38.9% of them used COCs to avoid pregnancy, the primary indication for most of COCs. Nevertheless, more women still on current COCs therapy reported that are using them as they are a safe contraceptive method and to avoid pregnancy, compared to current COCs non-users (47% vs. 34.8%, $p = 0.030$ and 44.7% vs. 33.1%, $p = 0.014$). Significant differences in perception relating to COCs use between the two groups also

resided in the fact that current COCs non-users didn't consider them more advantageous than the male condom or more advantageous at all, with more women out of this group considering that adverse drug reactions and weight gain are the main disadvantages of COCs. Also significantly less women in the current COCs non-users group reported improvement of the premenstrual pain while on COCs use, compared to current COCs users (66.6% vs. 78.4%, $p = 0.019$). Attitudes and perception on COCs are presented in Table III.

Table III
Attitudes and perception on COCs

	Overall (no, %)	Current COC users (no, %)	Current COC non-users (no, %)	p, OR (95% CI)
Which is the reason for tacking COC?				
Safe measure	132 (41.7)	85 (47)	47 (34.8)	0.030, 1.66 (95% CI 1.02 - 2.70)
Efficiency	131 (41.4)	76 (42)	55 (40.7)	0.824, 1.05 (95% CI 0.65 - 1.70)
To avoid pregnancy	123 (38.9)	81 (44.7)	42 (31.1)	0.014, 1.79 (95% CI 1.10 - 2.95)
Easy to use	97 (30.7)	61 (33.7)	36 (26.6)	0.180, 1.40 (95% CI 0.83 - 2.36)
Other disease except contraception	67 (21.2)	36 (19.9)	31 (22.9)	0.509, 0.83 (95% CI 0.47 - 1.49)
Acne	51 (16.1)	24 (13.2)	27 (20)	0.107, 0.61 (95% CI 0.32 - 1.17)
Cheap method	23 (7.3)	15 (8.3)	8 (5.9)	0.424, 1.43 (95% CI 0.55 - 4.03)
After you started the administration of COC, did the premenstrual pain improve?				
Yes	232 (73.4)	142 (78.4)	90 (66.6)	0.019, 1.82 (95% CI 1.07 - 3.11)
No	84 (26.6)	39 (21.6)	45 (33.4)	
Do you think that COC have advantages over				
Condom	142 (44.9)	92 (50.8)	50 (37)	0.0148, 1.75 (95% CI 1.09 - 2.84)
Spermicide	97 (30.7)	63 (34.8)	34 (25.2)	0.067, 1.58 (95% CI 0.94 - 2.69)
Vaginal ring	88 (27.8)	59 (32.6)	29 (21.5)	0.029, 1.76 (95% CI 1.03 - 3.08)
Diaphragm	84 (26.6)	57 (31.5)	27 (20)	0.022, 1.84 (95% CI 1.06 - 3.24)
Sterilet	71 (22.4)	50 (27.6)	21 (15.5)	0.011, 2.07 (95% CI 1.14 - 3.85)
I don't consider them more advantageous	121 (38.3)	60 (33.1)	61 (45.2)	0.029, 0.60 (95% CI 0.37 - 0.98)
Do you think that COC can have beneficial effects in:				
Premenstrual syndrome	199 (63)	115 (63.5)	84 (62.2)	0.811, 1.06 (95% CI 0.65 - 1.72)
Acne	178 (56.3)	98 (54.1)	80 (59.2)	0.364, 0.81 (95% CI 0.50 - 1.31)
Cervical cancer	34 (10.7)	20 (11)	14 (10.3)	0.847, 1.07 (95% CI 0.49 - 2.40)
I don't consider it has beneficial effects	39 (12.3)	22 (12.1)	17 (12.6)	0.965, 0.98 (95% CI 0.48 - 2.07)
I don't know	43 (13.6)	27 (14.9)	16 (11.8)	0.432, 1.3 (95% CI 0.64 - 2.72)

	Overall (no, %)	Current COC users (no, %)	Current COC non-users (no, %)	p, OR (95% CI)
What do you think that are the main disadvantages of COC?				
Adverse drug reactions	151 (47.8)	72 (39.7)	79 (58.5)	< 0.001, 0.47 (95% CI 0.29 - 0.76)
Administration at the same hour	125 (39.5)	74 (40.8)	51 (37.7)	0.576, 1.14 (95% CI 0.70 - 1.85)
Weight gain	90 (28.5)	43 (23.7)	47 (34.8)	0.031, 0.58 (95% CI 0.35 - 0.98)
If diarrhea or vomit, I have to re-administer the COC	49 (15.5)	31 (17.1)	18 (13.3)	0.357, 1.34 (95% CI 0.69 - 2.68)
Irregular bleeding between menstruation	32 (10.1)	19 (10.5)	13 (9.6)	0.800, 1.1 (95% CI 0.49 - 2.53)

The most common adverse drug reactions (Table IV) reported in a greater percentage by current COCs users were severe depression, anxiety or sudden mood swings, severe headache, nausea and breakthrough breathing, whereas current COCs non-users reported more often weight gain. A third of the women (32.9%) reported that they suffered other adverse drug reactions aside from the ones mentioned above, while on COCs therapy.

Table IV
Reported ADRs among current users and non-users

Reported ADR	Overall (no, %)
Acne	17 (5.4)
Weight gain	78 (24.7)
Depression/ anxiety/sudden mood changes	66 (20.8)
Severe headache	62 (19.6)
Nausea	56 (17.7)
Breakthrough bleeding	38 (12)
Abdominal pain	27 (8.54)
Eye disorders and blurred vision	24 (7.6)
Excessive sweating	16 (5.1)
Chest pain	17 (5.3)
Severe muscle cramps	17 (5.3)
Heavy breathing	14 (4.4)
Amenorrhoea	12 (3.8)
Diarrhoea	13 (4.1)
Allergic reaction	5 (1.6)
Melasma (facial skin discoloration)	2 (0.6)
None of the above	104 (32.9)

This study was conducted in a population from one of the largest and economically developed city in Romania and comes with new results on COCs utilization among women, their attitudes and perceptions, but also on prescription and counselling on COCs. Given the fact that Cluj-Napoca is a university city and the study was also active on social media, the largest proportion of respondents were highly educated young women.

Most of the women in this survey obtained the recommendation for COCs use from a healthcare professional (HCP), a gynaecologist in more than two third of the cases, and not from other unprofessional sources. Most of them also got counselling and a

prescription. This is a satisfactory and an important finding, as a proper medical evaluation before utilization allows for assessment and identification of known risk factors and might reduce the potential therapy associated risks. Contraceptive counselling leads to greater knowledge on the COCs proper utilization, and implicitly, adequate use for efficacy, knowing the fact that the main reason for contraceptive failure is inaccurate or irregular use [13]. Around half of the women responding to our survey were also counselled on efficacy and expected adverse drug reactions, aside utilization, which could increase compliance. Intensive contraceptive counselling was demonstrated to improve compliance, especially in developing countries [14]. Also efficacy is the greatest priority for women when choosing a contraceptive method, emphasizing the importance of counselling on this topic in order to improve compliance on COCs therapy [3, 10]. Our current COCs non-users obtained more often information about COCs therapy from alternative sources like internet, or were counselled by a gynaecologist on alternative methods of contraception and less on efficacy, which might have led to COCs nonadherence. This outlines again the importance of balanced and comprehensive counselling provided by healthcare specialists.

Positive perception on COCs was higher on current COC users than non-users. The main reasons reported for choosing COC therapy were the fact that they represent a safe (41.7%) and effective (41.4%) contraceptive method for preventing pregnancy. These results are comparable with the results obtained in another study conducted in Romania, on female university students, regarding their attitudes and perception about contraception, where 32.2% of the responders considered them safe and effective [2]. The Choice Study published in 2014, supports these results, but, in contrast to our study, women opted for COCs instead of other contraceptive methods at a friend's recommendation, and also for the main reason of good cycle control, aside efficacy [11]. The fact that premenstrual pain improved after utilizing COCs, more often in current COCs users, was also cited in other studies as representing a positive

attitude towards COCs and a reason why women choose and continued this treatment [6].

Despite the general perception on COCs advantages, current COCs non-users main concerns were related to adverse drug reactions and weight gain, although current COCs users reported a larger number of adverse drug reactions. This could be interpreted in the light of what represents an acceptable risk-benefit profile for each woman. However, similar concerns regarding side effects are mentioned in the CHOICE study on women's perception about "the pill" [6]. The adverse drug reactions reported by current COCs users in our study are the known COCs ADRs, and are similar with the findings of other studies [4, 12].

Conclusions

This study allows us to draw several conclusions. Romanian women opted for COCs therapy mostly at the gynaecologist recommendation, also benefiting from counselling and prescription. Positive perceptions on COCs were mainly due to efficacy in avoiding pregnancies and ease of use, and probably led to higher degree of therapy compliance, while safety concerns, especially weight gain, but also non – HCP source of information and counselling on alternative contraception methods were the reasons for non-adherence in the past COCs users.

The study limitations reside in the fact that we did not have a larger diversity of age and education levels, probably due to the fact that the questionnaire was online, the study took place in a university city, and we opted for consecutive sampling. However, an anonymous online questionnaire, filled in a private environment and not under investigator's supervision, allows for more honest and accurate answers on some of the personal aspects investigated. Also consecutive sampling is less prone to systematic errors compared to judgmental sampling. Given the above mentioned limitations, the survey results are representative only for the population studied, mainly young and highly educated women. If the sample would have been different, we might not have had the same good results on women knowledge on COCs. Nevertheless, even women that have a certain level of knowledge on COCs use can still benefit from counselling on COCs, given the fact that almost a third of respondents in our study found the patient information leaflet information difficult to understand. Counselling, educational campaigns and materials will always be beneficial for a rational, efficient and safe COCs utilization.

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